

THE NEXT STAGE OF DEVELOPMENT OF ELEARNING AT UFH IN SOUTH AFRICA

Graham Wright, Liezel Cilliers, Elzette Van Niekerk and Eunice Seekoe

*University of Fort Hare
Oxford St, East London, South Africa*

ABSTRACT

This paper is a review of eLearning using Blackboard as a Virtual Learning Environment (VLE) to identify the future development of the VLE within the Faculty of Health Sciences at the University of Fort Hare. The paper uses a case study approach to identify problems associated with the implementation of VLE's in Sub-Saharan Africa. Problem-Based Learning (PBL) and Case-Based Learning (CBL) are both based on a constructivist learning model that is used in many Health Faculties to underpin undergraduate and postgraduate education. All over the developed world, Higher Education Institutions (HEI) have introduced online learning systems, and this has been repeated in Sub-Saharan Africa during the last decade alongside student-focused curriculum designs. The challenges of producing harmony between the classroom and electronic learning environments are discussed within the case study. The paper concludes that there is a need to explore the tools and applications available to enable student focused and initiated interfaces with "Blackboard Learn" to support the implementation of an environment suitable for PBL and CBL.

KEYWORDS

Virtual Learning Environment, eLearning, Problem-Based Learning, Blackboard, Case-Based Learning, Sub-Saharan Africa

1. INTRODUCTION

Academics have been utilising online repositories to distribute learning material even before the advent of the World Wide Web (WWW) in 1993. Before the advents of web browsers were developed, internet systems such as Viewdata, Teletext and bulletin board system (BBS) had simple mail and file storage functions. In the developed world the advent of the personal computer (PC) and the WWW change the way in which academics could interact with each other and their student population. Availability gradually increased, and most students had either ownership or access to a computer during the 90's. Universities in the UK had the added advantage of the Joint Academic Network (JANET) while in the USA the Advanced Research Projects Agency Network (ARPANET) had been serving major universities until it was decommissioned in 1990.

None of these events had an impact on Education Institutes in South Africa which lack the connectivity to be involved before the linking of South African firstly by Rhodes University using Fidonet in 1998 followed by the other Universities and Science organisations which later connected via UNINET. South Africa was also by passed by the PC revolution and only a minority of academics in South Africa's universities had access to during connected computing during the PC revolution that brought the World Wide Web (WWW) to the rest of the world.

Following the advent of the WWW and proliferation of web browsers the access was limited in Africa; however, Telkom South Africa introduced an ADSL with download speeds of 512 kbps in 2002 and so the broadband era started in earnest within South Africa. Mobile Phones have become ubiquitous in South Africa, which is the economic leader of Africa. So a very different ICT landscape from other regions in the rest of the world but one which is now catching up on some of the computers systems but is utilising mobile phone technology rather than PC's for access.

1.1 Functions of Blackboard

Blackboard was first released in 1998 following the development of WebCT 1.0 (Goldberg, Salari, Swoboda, 1996) in 1995. Blackboard is an interactive eLearning platform that involves both the instructor and student to create, utilise and share digital contents (Kim, Do, 2016). They describe "the Homepage" of the programme as an interactive platform where course material, lesson notes and research material are made available to students. The major functions of Blackboard can be categorised into three sets of eLearning tools, namely interactive, resources and assessment tools, which El Zawaidy (2014) loosely describe as communication and content functions.

The communication function consists of interactive tools such as Announcements, Discussion Boards, Wikis, and Blogs (Kim, Do, 2016). Instructors typically post instructions on the Discussion Board for an upcoming lecture, while students post any queries they might have regarding assignments. The Discussion board is a tool allowing students to access it anywhere at anytime. Liaw (2008) stated that this 'chat-room' offers an ideal opportunity for students to maintain "up-to-date and regular communication" with instructors and peers from remote sites.

Students and instructors can send each other messages via the Discussion Board (El Zawaidy, 2014) while the resource function provides for content such as class notes, syllabus, videos and lecture slides. Assignments are loaded for students to complete and once completed; students return them to be assessed. The instructor grades the assignments and provides a mark, which is captured automatically into the Grade book. Lectures can also be video or sound recorded and loaded onto Blackboard so Students can view them in their own time.

The Assessment function within the Grade centre is used to create mark sheets, capture examination or test results and provide feedback to students. Multiple-choice tests can be administered on Blackboard and as the student completes the test the results are captured in the Grade book (Kim, Do, 2016). There is a Retention centre that monitors the students' progress and warns teachers if any of the students fail to submit assignments or if a student's average is below a pre-set percentage. An Achievement can also be reported in Blackboard. Through blackboard's reviewing systems, instructors can determine how many logins, time on tasks and which tools were the most used in courses (McCabe, Meuter, 2011).

2. BLACKBOARD LEARN

A search of Scopus, Pubmed and Google Scholar was conducted using the keywords:- eLearning, VLE's and Blackboard.

The use of VLE's by Universities around the world appears to focus on the administration and management of learning processes, with modules for timetabling, student performance, assessment and registration on module details.

Wright, Betts and Murray (2005) stated that it was important to take "a pedagogical rather than a technological approach to support students' learning" as it was essential to define the expected learning rather than just offer an eLearning portal to which students had access.

Betts and Wright (2002) suggested, as do many other eLearning practitioners, that human interaction is an important component of any learning process, at any academic level, and through any mode of delivery. Thus the interactive functions of the eLearning environment require staff to pay particular attention to their interactions with students online as well as in the classroom.

In a small study, Murray, Betts, Roberts and Wright (2003) found that respondents who were involved in using online learning systems thought "the simple delivery of materials was sufficient. Little reference was made to pedagogic underpinnings, to interactions among learners and teachers/facilitators" Is there evidence that such attitudes continue?

Certainly the use of phrases such as "Learning Management System" , "Blackboard Analytics" and "course management system" put yet another view of the important features to be found on the Blackboard website (<http://uki.blackboard.com/about-us/index.aspx>) for instance.

Blackboard is described as "a Web-based server software which features course management, customizable open architecture, and scalable design that allows integration with student information systems

and authentication protocols. “ ; On Google advanced search this exact phrase was found on 162 sites, including http://research.omicsgroup.org/index.php/Blackboard_Learn.

McLoughlin and Lee (2008) stated that “Currently, e-learning pedagogies at universities and colleges appear to be fuelled largely by learning management systems (LMS’s) that replicate these traditional paradigms in an online setting. They conform to a “student-as information consumer” model, thus reinforcing instructor-centred approaches to teaching, learning and knowledge, as opposed to being conducive to constructivist modes of learning that enable a high degree of learner self-direction and personalisation.”

Hughes (2008) wrote a whole paper on the subject ending with the statement that “Technology, without the pedagogy, can be a fetishised and empty learning and teaching experience – stylised but without substance or simply electronic information push.” Thus many authors at the time were extremely concerned by the implementation of LMS’s that focused on the management rather than the needs of students and the pedagogic underpinnings their learning environment.

Mlitwa and Van Belle (2011) note in their study that “the omission of the word learning” in these accounts, which questions whether learning is considered central to eLearning” and secondly that “these perceptions are function-based rather than pedagogy-focused.” They go on to extemporise that not coming up with an articulated pedagogical direction leaves the staff focusing on management of student materials such that the students become passive consumers.

Okantey and Addo (2016) conducted a study in Ghana using a Technology Acceptance Model (TAM) adapted to also explore institutional factors. They found that Lecturers adoption of eLearning using Blackboard was related to Perceived Usefulness (PU) that is their perception of how useful Blackboard would be in their academic work. Their results also highlighted the relationship between eLearning and Perceived Ease of Use (PEOU) to be the weakest. How much of the VLE do staff need to understand to be able to use it effectively on a daily basis?

JISC (formerly the Joint Information Systems Committee) is the UK higher education, further education and skills sectors’ not-for-profit organisation for digital services and solutions. Amongst its many publications is a short guide (<https://www.jisc.ac.uk/guides/technology-and-tools-for-online-learning/virtual-learning-environments>) regarding VLEs that stated that “One advantage of using VLEs is that institutions can train all staff to make the most of their particular system. However, VLEs have been criticised for not inspiring innovative curriculum design, or offering flexible ways for learners to engage with content.” And that “Staff can be tempted to simply upload all their existing content, rather than consider how they could use technology to change the design of the curriculum. “

2.1 A case Study of VLE’s in Sub-Saharan Africa

Sub-Saharan Africa has adopted online learning, but the process is still in its infancy (Kotoua, Ilkan & Kilic, 2015). The first online university was founded by the World Bank in Africa in 1996. It was based at the University of Kenyatta, Kenya, but involved four other African countries namely Ghana, Kenya, Uganda and Zimbabwe. Today the university offers science, engineering, business and vocational course making use of a variety of technologies including a learner management system (Kotoua, Ilkan & Kilic, 2015).

With the advent of eLearning, there has been increasing adoption and use of various Learning Management Systems (LMS) in higher education of Sub-Saharan countries. These systems provide the lecturer with a variety of tools to deliver course content and include audio, video, and text as well as communication tools (chat, discussions forums, email, and whiteboards), and assessment tools (Mtebe & Raisamo, 2014). The most popular systems deployed in several institutions in Sub-Saharan countries are: Blackboard, Moodle, Atutor, Sakai, and Kewl (Ssekakubo et al., 2011). Moodle seems to be the most popular as Ssekakubo et al (2011) and Hoosen and Butcher (2012) found that HEIs in several countries in Sub-Saharan Africa (South Africa, Zambia, Kenya and Uganda, Mozambique, Tanzania, Ghana, Nigeria) made use of this system.

The cost of procuring, installing and maintaining an LMS can be seen as prohibitive, but has been supported by several international agencies such as the World Bank, Swedish International Development Cooperation Agency (SIDA), United Nations Educational, Scientific and Cultural Organization (UNESCO), United Nations Development Programme (UNDP), and United States Agency for International Development (USAID) are supporting various eLearning initiatives in Africa (Farrell & Isaacs, 2007).

However, despite the financial support of these agencies, the majority of LMS implemented in Sub-Saharan countries has not been successful. Ssekakubo et al. (2011) reported that the majority of users in HEIs in Sub-Saharan countries do not use the LMS installed in their institutions. For example, the Makerere University reported only 60 registered users on the LMS, the university of Nairobi only 10 active users, 87% of instructors at the Open University of Nairobi and 74% of instructors at HEIs in Zimbabwe reported that they have never used Blackboard since they were trained (Ssekakubo et al., 2011; Bhalalusesa, Lukwaro, & Clemence, 2013).

GHANA. The Ghanaian government has made eLearning a priority in their HEI. The government has entered into a partnership with the private sector to import computers without any tax implications in order to improve the Information and Communication Technology (ICT) infrastructure in the country (Kotoua, Ilkan & Kilic, 2015). Despite these concessions, the growth of online education and the use of LMS in Ghana have remained stilted. While most universities offer Internet access half of the students do not have access to the Internet off campus. For this reason, most students in Ghana prefer traditional face-to-face classes as they cannot access the educational resources on the LMS (Kotoua, Ilkan & Kilic, 2015).

TANZANIA. Lwoga (2014) investigated an LMS at a HEI in Tanzania and found that seven variables will contribute to the adoption of these systems. These variables include information quality, system quality, service quality, instructor quality, perceived usefulness, user satisfaction and continual usage intention. System quality was found to be the most important of these factors.

Characteristics of the LMS that determine system quality was found to be guaranteed response time, interactivity, user interface and better design functionalities. Students in general perceived the LMS as useful with easy and user-friendly operations (Cheng, 2012). Instructor quality was also found to be a significant predictor of both perceived usefulness and user satisfaction and include the ability to respond to students' queries and good communication skills. Service quality had insignificant association but technical guidance and support play a key role in enhancing learners' eLearning acceptance (Cheng, 2012).

SOUTH AFRICA. In South Africa, at the University of Fort Hare the Academic Development Centre of the institution identified Blackboard as an appropriate LMS to be used by the institution in 2008. In 2009, the Blackboard server was installed at the University and training commenced. Over the next four years the use of Blackboard increased steadily. The advantages of the LMS for teaching as reported by the lecturers included efficiency of communication, storage of materials, access to materials, discussion classes, engagement, instant feedback, and out of class interactions. Area of concern reported by the staff included the user-friendliness of the system and navigation problems (Nkonki, Ntlabathi & Mkonqo, 2013). Isabirye and Dlodlo (2014) found that lack of eLearning and ICT support, lack of awareness amongst lecturers and management about the benefits of eLearning lead to negative attitudes among lecturers and students were barriers in South Africa to overcome.

2.1.1 Problems

Andersson and Grönlund (2009) provide a framework to explain challenges for LMS as part of eLearning in Africa. These challenges can be summarised as follow:

- Individual challenges include both the student and teacher. Factors such as motivation, age, time, qualification, competence, academic and technological confidences are found in this category. The social problems that inhibit the growth of eLearning include the 'brain drain' from Africa to developed countries. University staff that are trained to make use of LMS and eLearning are lost as they move abroad to access better salaries and working conditions (Adeyinka, 2013). Mlitwa and Van Belle (2011) found that individual challenges of computer literacy, in addition to the resistance to change were also a barrier to the implementation of LMS in South Africa.
- Course challenges include curriculum, pedagogical issues, subject content flexibility and localisation and the proper support to make use of ICT resources.
- Contextual challenges such as knowledge management of teaching content, funding, training and the attitudes of both student and teacher to use eLearning.

- Technological challenges such as lack of infrastructure facilities such as computers, high cost of ICT infrastructure and internet access, connectivity, electricity and limitations in bandwidth (Abdelfatah, 2016). Some universities also rely on foreign donors for funding to implement eLearning facilities and resources, which mean that the program is prone to collapse once these donors withdraw (Kotoua, Ilkan & Kilic, 2015).

2.2 Pedagogy

The university of Fort Hare launched a new Faculty of Health Sciences as part of its centenary celebration. The faculty started with five departments and five research centres. The faculty has to respond to the South Africa's National Development Plan (NDP). The NDP requires development of human resources for health which results in health professionals being developed who can think critically, solve health care problems, function independently and provide leadership in clinical care. To strategically meet this demand the Faculty has been guided by Boyers Model of scholarship development that highlights the focus on the concepts of scholarship of Discovery (research), Teaching, Integration and engagement (Badat, 2010).

The introduction of innovative methods including Problem Based Learning (PBL), Community Based Education (CBE) and Case-Based Teaching (CBT) in the Faculty of Health Sciences assist in reflecting the University of Fort Hare's response to the challenge of transformation in higher education and national health policy.

2.2.1 Problem-Based Learning- Community Based Education (PBL-CBE)

Within the Faculty of Health Sciences, University of Fort Health the pedagogical approach of PBL-CBE has been integrated in professional health programmes for teaching undergraduate students.

ELearning, Problem Based learning (PBL) – Community Based Education (CBE) and Case Based Teaching (CBT) are based on the constructivist learning model which according to Ellis and Wright (2013) gives the learners the opportunity to:

- To learn to embrace complexity;
- To find relevance in their learning as it applies to the programme they are following;
- To be prepared for the type of problem-solving they will be expected to use in the work-place; and
- To enhance their capacity for creative and responsible real-world problem solving

PBL-CBE can be considered to be the founding paradigm on which other learner-centred approaches such as Case-Based Learning have been developed.

2.2.2 Case-Based Learning

Case-Based Learning using well developed and realistic cases help to develop critical thinking and which enables students to differentiate realistic and informed from false or flawed logic. Case Based Learning takes postgraduate learners through a voyage of discovery and provides insight into the discipline and terminology of the subject as well as the relationships and concepts within the case study. In a case there are usually explicit and implicit leadership and management issues to be confronted. A case is defined by “a description of an actual situation, commonly involving a decision, a challenge, an opportunity, a problem or an issue faced by a person (or persons) in an organization” (Jonassen, 2010)

Barnes, Christensen and Hansen (1994) of Harvard Business School define a case as: “a partial, historical, clinical study of a situation which has confronted a practicing administrator or managerial group. Presented in narrative form to encourage student involvement, it provides data – substantive and process – essential to an analysis of a specific situation, for the framing of alternative action programs, and for their implementation recognizing the complexity and ambiguity of the practical world”

This is the definition used by the Albertina Sisulu Executive Leadership Programme in Health (ASELPH Fellowship) programme by its partners Harvard T.H. Chan School of Public Health (Harvard), University of Pretoria (UP), University of Fort Hare (UFH) and the South African National Department of Health.

3. CONCLUSION

There would appear to be a need to explore the implementation of the use of “Case studies” and PBL as a teaching strategy in the Faculty post-graduate programmes in Public Health using Blackboard as the Learning Environment. Also given the nature of the ASELPH fellowship programme, there is a need to ensure competent mentorship is provided alongside and within that environment. These challenges are in addition to those identified and summarised earlier in this article. Introducing such innovative pedagogy requires curriculum review and capacity building of faculty members which can be enabled through on-site training of staff, visit local and international higher education institutions with more experience and expertise. Faculty members can understudy guest presenters who have specific areas of expertise and use coaching through eLearning and interactive media such as videoconferences, Skype and Blackboard.

Tsai and Chiang (2013) undertook a review of the literature on PBL and eLearning and came to the conclusion that “Underpinned by the Constructivist Approach, PBL is one of the methods that could be applied in online learning environments” However this is little evidence that this has been successfully implemented on Blackboard Learn. Our next stage of work will be to explore the tools and applications available to enable student focused and initiated interfaces with Blackboard Learn to enable the implementation of an environment suitable for PBL and CBL For example Blackboard Learn has 227 Extensions that is module which extend the core functions or add new ones. A search of Google Scholar for ‘Extensions "Blackboard Learn" ‘ reveals 326 papers for us to review.

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